

BOMBUS HYPNORUM (L.) (HYMENOPTERA: APIDAE), A NEW BRITISH BUMBLEBEE?

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Abstract. A male of the bumblebee *Bombus hypnoruu* (L.) has been collected in Wiltshire. This species has not been recorded previously from Britain and its identification and status are discussed.

INTRODUCTION

The British bumblebee fauna (genus *Bombus*) includes up to 25 species (if *B. uagnus* Vogt is considered a separate species) of which six species are cuckoo bumblebees (subgenus *Psithyrus*). Of the social species, *B. pomoruu* (Panzer) has not been recorded since 1900 and it is doubtful whether it was ever resident here (Alford, 1975). Two other species, *B. cullunanus* (Kirby) and *B. subterraneus* (L.), may have become extinct during the twentieth century, leaving just 15 or 16 social species (see www.nhm.ac.uk/entomology/bombus/decline.html). However, one of us (DG) has recently collected a male of *B. hypnoruu* (L.) in Wiltshire, a species that has not been recorded previously from Britain.

STATUS OF *BOMBUS HYPNORUM* IN BRITAIN

The specimen was found on 17.vii.2001 near the village of Landford, on the northern fringe of the New Forest (SU250215) visiting a bramble flower (*Rubus fruticosus* L.). The identity was confirmed by comparison with material at the Natural History Museum, London. The specimen has bright, unfaded colouring of the pubescence, with little obvious hair loss and only moderate damage to the distal wing margins. Therefore it is unlikely that it had flown from mainland Europe. If not, we presume that there must have been a colony of the species in the vicinity. Whether any such colony became established naturally, or through the deliberate import of European bees (perhaps to glasshouses), we cannot say. Consequently, it is unclear as yet whether this species is truly established within Britain.

Of the bumblebee species recorded from mainland Europe but not previously from Britain, *B. hypnoruu* is one of the species most likely to become established here. First, Williams (1991, Fig. 1) has shown it to be one of the most widespread species within Europe and Asia, where it is associated with the cool temperate forest zone in the north and the upper montane forests in the south. Second, Løken (1973) has described it as showing 'a stronger preference for areas inhabited by man than the remaining Scandinavian *Bombus* spp.' Third, Rasmont (1988) considered that it had become more abundant in Belgium and Germany during the twentieth century, possibly as a result of increasing urbanisation. Recent studies by Goulson *et al.* (2001) in England have demonstrated that gardens are a stronghold for other bumblebee species, notably for *B. terrestris*

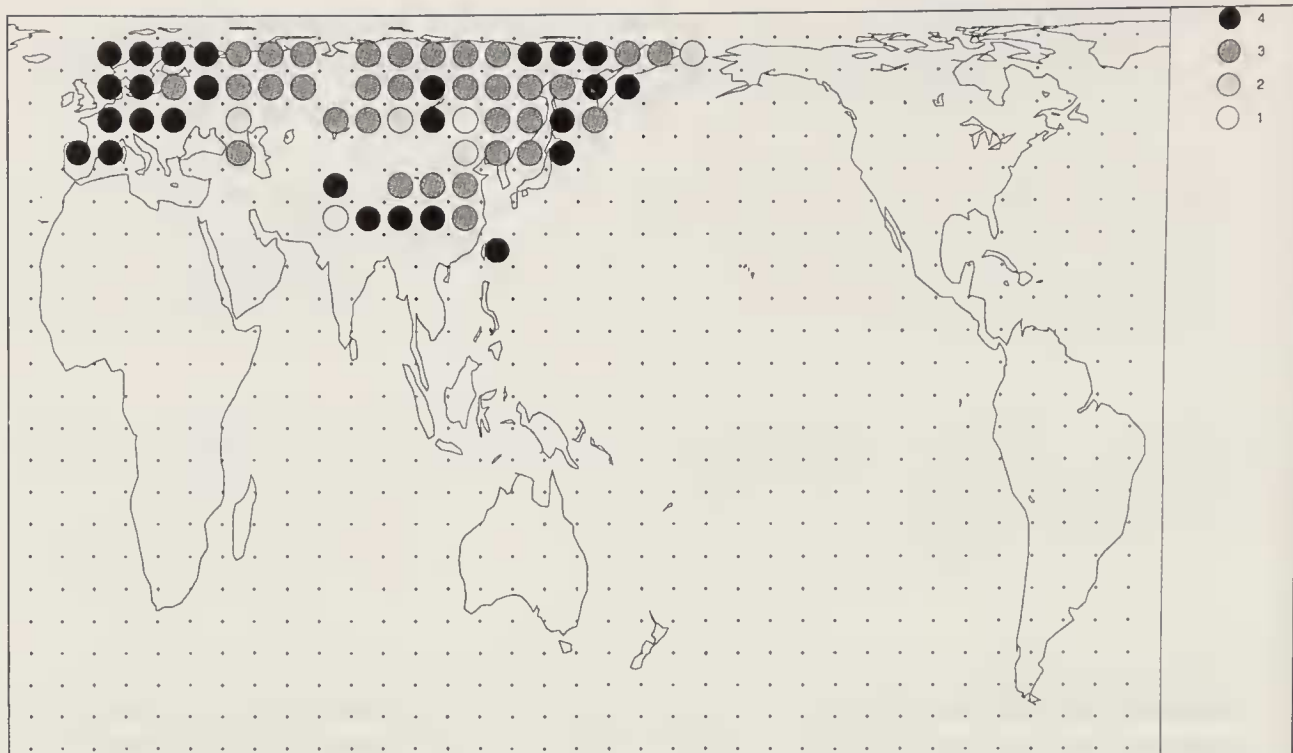


Figure 1. Records of *Bombus hypnorum* for equal-area (611,000 km²) grid cells with (4) black spots for specimens identified by PW, (3,2) grey spots for literature records, (1) white spots for expected distribution. For details, see Williams (1991).

Table 1. Supplement for *Bombus hypnorum* to the key in Prys-Jones & Corbet (1991).

Female true bumblebees

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16 Face long or medium length as in I.15 or I.16; mandibles with oblique groove but without notch (I.17; use a dissecting microscope); mid metatarsus with spine (as I.18; use dissecting microscope or strong lens) 17

— Face short as in I.19; mandibles without oblique groove but with notch (I.20); mid metatarsus without spine (as I.21)

a Top of thorax with two yellow stripes separated by a broad black band; upper lip with transverse median ridge interrupted by a longitudinal groove on the midline that occupies about a quarter of the breadth of the lip *B. jonellus* (pl.1.6)

b Top of thorax uniformly buff, yellowish-brown or ginger, without a black band (may have a few black hairs intermixed); upper lip with transverse median ridge interrupted by a longitudinal groove on the midline that occupies about a third of the breadth of the lip *B. hypnorum* (not illus.)

Male true bumblebees

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10 Front and rear bands on thorax of roughly equal width in midline 11

— Rear band absent or much narrower in the middle than the front band 17

— Top of thorax uniformly buff, yellowish-brown or ginger, without a black band (may have a few black hairs intermixed); tail white; genitalia similar to *B. jonellus* (pl. 6.9), but tips of sagittae tapering to points, and inner basal corners of squamae separated from adjacent gonocoxitrs by broad deep notches *B. hypnorum* (not illus.)

(L.). *B. hypnorum* may thus be well suited to survival in Britain, where gardens comprise a substantial portion of the land area, particularly in the more densely populated south and east of Britain. The native range of this species extends north of the Arctic circle, so potentially it could spread throughout much of Britain (see Fig. 1). If it has become established, there is no reason to believe that it will do any harm, for example by competing with native British species, since it is already part of the larger European bumblebee fauna (the same might not be true if the North American 'glasshouse' bumblebee species were to be introduced). Bumblebees are generally beneficial through their role in pollination of crops and wildflowers.

IDENTIFICATION

B. hypnorum is easy to recognise from the colour of its pubescence. It has a brown thorax and a black abdomen with some brown hairs on T1 and a white tail. This is a distinctive colour pattern not shared by any other British bumblebee. Among the other British species, it most closely resembles some darker individuals of *B. pascuorum* (Scopoli), but with a white tail. To help identify other specimens, a supplement to the key in Prys-Jones and Corbet (1991) is provided in Table 1. We would be very interested to learn of any further sightings of this species.

ACKNOWLEDGEMENT

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